

c.) **Amendments to the claims:**

Please cancel claims 81-93 without prejudice or disclaimer of the subject matter thereof.

Please amend claims 1, 4, 7-23, 50-56, 67-74, 94 and 95 as follows:

Claim 1. (currently amended) ~~Method~~ A method of suppressing amylose ~~fermentation~~ formation in potato, ~~characterized by genetically engineered modification of the potato by comprising:~~

introducing into the genome of ~~the~~ a potato tissue a gene construct comprising:

a fragment of ~~the~~ a potato gene ~~which codes for formation of that~~ encodes a granule-bound starch synthase (GBSS gene) ~~inserted~~ positioned in the an antisense ~~direction~~ orientation, wherein said fragment ~~is~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, ~~and fragments~~ nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID ~~No.~~ NOs. 6-17, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function, together with

a promoter ~~selected from the group consisting of a~~ CaMV 35S, patatin I and the GBSS promoter.

Claims 2 - 3. (previously canceled).

Claim 4. (currently amended) ~~Fragment~~ An isolated fragment of the a potato gene ~~encoding for that~~ encodes a granule bound starch synthase (GBSS), wherein said fragment ~~is~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 3, ~~and fragments~~ nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID ~~No.~~ NOs. 6-17.

Claims 5 - 6. (previously canceled).

Claim 7. (currently amended) ~~Antisense~~ An antisense construct ~~for~~ capable of inhibiting expression of the a gene ~~for granule-bound~~ that encodes a starch synthase in potato, comprising

a) a promoter;

b) a fragment of the a potato gene ~~encoding for~~ that encodes a granule-bound starch synthase ~~inserted positioned in the an antisense direction orientation~~, wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, ~~and fragments nucleotide sequences~~ encoding one or more of the amino acid sequences of SEQ ID No. NOs. 6-17.

Claim 8. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 7, ~~characterized in that wherein~~ the promoter is ~~an isolated promoter from~~ derived from the potato gene ~~encoding for that encodes said~~ granule-bound starch synthase (GBSS).

Claim 9. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 7, ~~characterized in that wherein~~ the promoter is selected from the group consisting of ~~the~~ SEQ ID No. 4, a CaMV 35S promoter and ~~the a~~ patatin I promoter.

Claim 10. (currently amended) ~~Vector~~ A vector comprising a fragment of the a potato gene ~~encoding for that encodes a~~ granule-bound starch synthase (GBSS), wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 3, ~~and fragments nucleotide sequences~~ encoding one or more of the amino acid sequences of SEQ ID No. NOs. 6-17, and ~~inserted positioned in the an antisense direction orientation~~ in relation to a promoter ~~immediately positioned upstream from the gene fragment~~ said nucleotide sequence.

Claim 11. (currently amended) ~~Vector~~ A vector comprising the antisense construct as claimed in claim 7.

Claim 12. (currently amended) ~~Cell~~ A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 7.

Claim 13. (currently amended) ~~Potato~~ A potato plant whose genome comprises the antisense

construct as claimed in claim 7.

Claim 14. (currently amended) ~~Potato tubers~~ A potato tuber whose genome comprises the antisense construct as claimed in claim 7.

Claim 15. (currently amended) ~~Seeds~~ A seed from a potato plant whose genome comprises the antisense construct as claimed in claim 7.

Claim 16. (currently amended) ~~Microtubers~~ A microtuber of a potato whose genome comprises the antisense construct as claimed in claim 7.

Claim 17. (currently amended) ~~Vector~~ A vector comprising the antisense construct as claimed in claim 8.

Claim 18. (currently amended) ~~Cell~~ A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 8.

Claim 19. (currently amended) ~~Potato~~ A potato plant whose genome comprises the antisense construct as claimed in claim 8.

Claim 20. (currently amended) ~~Potato tubers~~ A potato tuber whose genome comprises the antisense construct as claimed in claim 8.

Claim 21. (currently amended) A method for tuber-specific expression of a gene product in a potato comprising:

transforming said potato with a DNA molecule comprising ~~an isolated promoter~~ an isolated promoter from ~~the~~ a potato gene ~~encoding for~~ that encodes a granule-bound starch synthase (GBSS).

Claim 22. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 7,

~~characterized in that~~ wherein the promoter has contains the sequence stated in of SEQ ID NO. 4.

Claim 23. (currently amended) A method for tuber-specific expression of a gene product in a potato comprising:

transforming said potato with a DNA molecule comprising ~~an isolated promoter a~~ promoter sequence from ~~the a~~ a potato gene ~~encoding for that~~ encodes a granule-bound starch synthase (GBSS), said promoter ~~having~~ sequence containing the nucleotide sequence ~~stated in of~~ SEQ ID NO. 4.

Claims 24 - 49. (previously canceled).

Claim 50. (currently amended) A method of suppressing amylose formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of ~~the a~~ a potato gene ~~which codes for formation of that~~ encodes a granule-bound starch synthase (GBSS gene) ~~inserted positioned in the an~~ positioned in the an anti-sense ~~direction~~ orientation, wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 1.

Claim 51. (currently amended) A method of suppressing amylose formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of ~~the a~~ a potato gene ~~which codes for formation of that~~ encodes a granule-bound starch synthase (GBSS gene) ~~inserted positioned in the an~~ positioned in the an anti-sense ~~direction~~ orientation, wherein said fragment ~~is~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, and SEQ ID NO. 3, nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID NOs. 6-17 ~~together with a promoter selected from the group consisting of CaMV 35S, patatin I and the GBSS promoter.~~

Claim 52. (currently amended) A An isolated fragment of a potato gene ~~encoding for that~~ encodes a

granule-bound starch synthase (GBSS), wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, and SEQ ID NO. 3.

Claim 53. (currently amended) An antisense construct ~~for~~ that is capable of inhibiting expression of ~~the a~~ potato gene ~~which codes for~~ that encodes a granule-bound starch synthase (GBSS gene) comprising:

a) a promoter,

b) a fragment of the potato gene ~~encoding for~~ that encodes said granule-bound starch synthase ~~inserted~~ positioned in the an antisense ~~direction~~ orientation, wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, and SEQ ID NO. 3.

Claim 54. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 53, ~~characterized in that~~ wherein the promoter contains ~~essentially has~~ the sequence ~~stated in~~ of SEQ ID NO. 4.

Claim 55. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 53, ~~characterized in that~~ wherein the promoter is selected ~~among the~~ from the group consisting of SEQ ID NO. 4, a CaMV 35S promoter and ~~the a~~ patatin I promoter.

Claim 56. (currently amended) A vector comprising a fragment of ~~the a~~ potato gene ~~encoding for~~ that encodes a granule-bound starch synthase (GBSS), wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, and SEQ ID NO. 3, and said ~~fragment is inserted~~ nucleotide sequence is positioned in the an antisense ~~direction~~ orientation in relation to a promoter ~~immediately~~ positioned upstream from ~~the gene fragment~~ said nucleotide sequence.

Claim 57. (previously added) A vector comprising the antisense construct as claimed in claim 53.

Claim 58. (previously added) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 53.

Claim 59. (previously added) A potato plant whose genome comprises the antisense construct as claimed in claim 53.

Claim 60. (previously added) A potato tuber whose genome comprises the anti-sense construct as claimed in claim 53.

Claim 61. (previously added) A seed from a potato plant whose genome comprises the antisense construct as claimed in claim 53.

Claim 62. (previously added) A microtuber of potato whose genome comprises the antisense construct as claimed in claim 53.

Claim 63. (previously added) A vector comprising the antisense construct as claimed in claim 54.

Claim 64. (previously added) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 54.

Claim 65. (previously added) A potato plant whose genome comprises the antisense construct as claimed in claim 54.

Claim 66. (previously added) A potato tuber whose genome comprises the anti-sense construct as claimed in claim 54.

Claim 67. (currently amended) ~~An antisense construct as claimed in claim 53 wherein the promoter has the sequence state in SEQ ID No. 4~~ A seed from a potato plant, whose genome comprises the antisense construct as claimed in claim 54.

Claim 68. (currently amended) A method of suppressing amylose formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of the ~~a potato gene which codes for formation of~~ that encodes a granule-bound starch synthase (GBSS gene) inserted positioned in the an anti-sense direction orientation, wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 4 3.

Claim 69. (currently amended) A method of enhancing amylopectin formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of the ~~a potato gene which codes for formation of~~ that encodes a granule-bound starch synthase (GBSS gene) inserted positioned in the an anti-sense direction orientation, wherein said fragment ~~has the~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, SEQ ID NO. 4, nucleotide sequences that encode one or more of the amino acid sequences of SEQ ID NOs. 6-17.

Claim 70. (currently amended) A An isolated fragment of the ~~a potato gene coding for that~~ encodes a granule-bound starch synthase (GBSS), wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 1.

Claim 71. (currently amended) An antisense construct ~~for~~ that is capable of inhibiting expression of the ~~a potato gene which codes for formation of~~ that encodes a granule-bound starch synthase (GBSS gene) comprising:

a) a promoter, and

b) a fragment of the potato gene ~~coding for~~ that encodes said granule-bound starch synthase inserted positioned in the an antisense direction orientation, wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 1.

Claim 72. (currently amended) The antisense construct as claimed in claim 71, wherein the promoter is ~~an isolated promoter from the potato gene coding for a~~ granule-bound starch synthase (GBSS) gene promoter.

Claim 73. (currently amended) The antisense construct as claimed in claim 71, wherein the promoter is selected from the group consisting of the SEQ ID NO. 4, a CaMV 35S promoter and ~~the a~~ patatin I promoter.

Claim 74. (currently amended) A vector comprising a fragment of ~~the a~~ potato gene ~~coding for that encodes a~~ granule-bound starch synthase (GBSS), wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 1.

Claim 75. (previously added) A vector comprising the antisense construct as claimed in claim 71.

Claim 76. (previously added) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 71.

Claim 77. (previously added) A potato plant whose genome comprises the antisense construct as claimed in claim 71.

Claim 78. (previously added) A potato tuber whose genome comprises the antisense construct as claimed in claim 71.

Claim 79. (previously added) A seed from a potato plant, whose genome comprises the antisense construct as claimed in claim 71.

Claim 80. (previously added) A microtuber of a potato, whose genome comprises the antisense construct as claimed in claim 71.



Claims 81-93. (currently canceled).

Claim 94. (currently amended) An isolated, tuber-specific potato, granule-bound starch synthase (GBSS) gene promoter ~~having that contains essentially~~ the nucleotide sequence of SEQ ID NO. 4.

Claim 95. (currently amended) ~~An isolated,~~ An isolated tuber-specific, potato, granule-bound starch synthase (GBSS) gene promoter ~~consisting of~~ comprising the nucleotide sequence of SEQ ID NO. 4.

Please add the following as new claims 96-129:

96. (new) The method of claim 1 wherein the promoter is selected from the group consisting of a CaMV 35S promoter, a patatin I promoter, a GBSS promoter, SEQ ID NO. 4, and combinations thereof.

97. (new) The method of claim 1 wherein suppression of amylose formation is practically complete.

98. (new) The method of claim 1 wherein introducing is by a transformation process.

99. (new) The method of claim 1 wherein the fragment contains SEQ ID NO. 1.

100. (new) The method of claim 1 wherein the fragment contains SEQ ID NO. 2.

101. (new) The method of claim 1 wherein the fragment contains SEQ ID NO. 3.

102. (new) The method of claim 1 wherein the fragment encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.

103. (new) The fragment of claim 4 which contains SEQ ID NO. 1.

104. (new) The fragment of claim 4 which contains SEQ ID NO. 2.

105. (new) The fragment of claim 4 which contains SEQ ID NO. 3.

106. (new) The fragment of claim 4 which contains the nucleotide sequence that encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.

107. (new) The construct of claim 7 wherein the fragment contains SEQ ID NO. 1.

108. (new) The construct of claim 7 wherein the fragment contains SEQ ID NO. 3.

- 109. (new) The construct of claim 7 wherein the fragment encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.
- 110. (new) The method of claim 50 wherein the fragment contains SEQ ID NO. 1.
- 111. (new) The method of claim 50 wherein suppression of amylose formation is practically complete.
- 112. (new) The method of claim 51 wherein the fragment contains SEQ ID NO. 2.
- 113. (new) The method of claim 51 wherein the fragment contains SEQ ID NO. 3.
- 114. (new) The method of claim 51 wherein the fragment encodes the amino acid sequence of any one or more of SEQ ID NOs. 6-17.
- 115. (new) The method of claim 51 wherein the gene construct further comprises a promoter.
- 116. (new) The method of claim 115 wherein the promoter is selected from the group consisting of a CaMV 35S promoter, a patatin I promoter, a GBSS promoter, SEQ ID NO. 4, and combinations thereof.
- 117. (new) The method of claim 51 wherein suppression of amylose formation is practically complete.
- 118. (new) The method of claim 52 wherein the fragment contains SEQ ID NO. 2.
- 119. (new) The method of claim 68 wherein suppression of amylose formation is practically complete.
- 120. (new) The method of claim 68 wherein the gene construct further comprises a promoter.
- 121. (new) The method of claim 120 wherein the promoter is selected from the group consisting of a CaMV 35S promoter, a patatin I promoter, a GBSS promoter, SEQ ID NO. 4, and combinations thereof.
- 122. (new) The method of claim 69 wherein the nucleotide sequence contains SEQ ID NO. 1.
- 123. (new) The method of claim 69 wherein the nucleotide sequence contains SEQ ID NO. 2.
- 124. (new) The method of claim 69 wherein the nucleotide sequence contains SEQ ID NO. 3.
- 125. (new) The method of claim 69 wherein the nucleotide sequence contains SEQ ID NO. 4.
- 126. (new) The method of claim 69 wherein the nucleotide sequence encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.
- 127. (new) The method of claim 69 wherein the gene construct further comprises a promoter.

128. (new) The method of claim 127 wherein the promoter is selected from the group consisting of a CaMV 35S promoter, a patatin I promoter, a GBSS promoter, SEQ ID NO. 4, and combinations thereof.